

## METHODS AND SYSTEMS FOR LARGE-SCALE AIRFRAME ASSEMBLY

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### ABSTRACT OF THE DISCLOSURE

Methods and systems for large-scale airframe assembly are disclosed. In one embodiment, a method includes measuring a plurality of discrete point positions at least one of on and adjacent to at least one of a first and a second component, and measuring at least one surface position on the at least one of the first and second components. The measured positions are compared with a desired position information (*e.g.*, a computer aided design model). The comparison may include applying a fitting routine to the measured positions and the desired position information. Next, a transformation matrix for improving the comparison between the measured positions and the desired position information is computed. At least one of the first and second components is then moved according to the transformation matrix. During movement, the plurality of discrete point positions may be monitored and provided to the position control system by a feedback loop.

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